

## ABSTRACT

An opening fabricating apparatus for creating an opening with desired dimensions at a mask tip of a near-field optical microscope, and a near-field optical microscope using the same are provided. The apparatus comprising: a light source 116; reflection means 140; light detection means 124; press means 128, 130 pressing a probe tip against said reflection means; storage means 142; calculation means 144 figuring out the quantity of light of the reflected light for the acquisition of said opening with desired dimensions from the calibration information stored in said storage means; and press control means 126 controlling pressing of said probe tip against said reflection means so as to allow the quantity of light of said reflected light to become equal to the quantity figured out by said calculation means. The probe opening fabricating apparatus is capable of readily fabricating an opening of desired dimensions with a high reproducibility.